DoD 8320.1-M

Department of Defense

DATA ADMINISTRATION PROCEDURES

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ASSISTANT SECRETARY OF DEFENSE

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COMMAND, CONTROL,
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FOREWORD

This Manual is issued under the authority of DoD Directive 8320.1, "DoD Data Administration, " September 26, 1991. It provides uniform procedures for the management and implementation of DoD Data Administration as established by DoD Directive 8320.1. This Manual supersedes DoD instructions 5000.12 and 5000.18 and their related manuals.

This Manual applies to the Office of the Secretary of Defense (OSD), the Military Departments, the Chairman of the Joint Chiefs of Staff, the Unified Combatant Commands, the Inspector General of the Department of Defense, the Defense Agencies, and the DoD Field Activities (hereafter referred to collectively as "the DoD Components"). Its provisions are applicable to all initiatives to develop, modernize, or migrate information systems, whether automated or nonautomated.

This Manual is effective immediately; it is mandatory for use by all the DoD Components.

Send recommended changes to the Manual to:

Defense Information Systems Agency
Joint Interoperability and Engineering Organization
Center for Information Management/XD
Data Administration Program Management Office
701 S. Courthouse Rd
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REFERENCES

(a) Federal Information Processing Standard (FIPS) Publication (PUB) 11-3, "American National Dictionary for Information Systems, " (adopted in entirety from American National Standards Institute (ANSI) X3.1 72-1 990), February 1991

(b) DoD Directive 8120.1, "Life-Cycle Management (LCM) of Automated Information Systems (AISs), " January 14, 1993

(c) DoD Directive 8320.1, "DoD Data Administration, " September 26, 1991

(d) National Bureau of Standards (NBS) Special Pub 500-152, "Guide to Information Resource Dictionary System Applications: General Concepts and Strategic Systems Planning, " April 1988

(e) NBS PUB 500-149, "Guide on Data Entity Naming Conventions, " October 1987

(f) DoD 8320.1-M-1, "DoD Data Element Standardization Procedures, " January 1993, authorized by DoD Directive 8320.1, September 26, 1991

(g) DoD Directive 8000.1, "Defense Information Management (IM) Program, " October 27, 1992

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(i) DoD Directive 5200.28, "Security Requirements for Automated Information Systems, " March 21, 1988

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(v) DoD Directive 8120.2, "Automated Information System (AIS) Life-Cycle Management (LCM) Process, Review, and Milestone Approval procedures, " January 14, 1993

(w) DoD Directive 8910.1, "Management and Control of Information Requirements, "

June 11, 1993

(x) National Information Standards and Technology (NIST) Special Publication 500-173, "Guidelines to Data Administrationr" October 1989

(Y) FIPS PUB 156, "Information Resource Dictionary System (IRDS)," April 5, 1989; also "FIPS 156 Amendmentr" August 3, 1992 (change notice #1 to FIPS 156)

DEFINITIONS

1. Activity. See definition 30., functional activity.

2. Activity Models. Models of the processes that make up the functional activity showing inputs, outputs, controls, and mechanisms through which the processes of the functional activity are (or will be) conducted.

3. Application Software. Software that is designed for one or more applications. (FIPS PUB 11-3, reference (a))

4. "As Is" Activity and/or Data Model. Activity and/or data model that portrays how a business process is currently structured. It is used to establish a baseline for subsequent "To Be" functional process improvement activities or programs. (See definition 41., modeling.)

5. Attribute. A property or characteristic of one or more entities; for example, COLOR, WEIGHT, SEX. Also, a property inherent in an entity or associated with that entity for database purposes (reference (a)).

6. Automated Information System (AI S). A combination of computer hardware and computer software, data, and/or telecommunications that performs functions such as collecting, processing, storing, transmitting, and displaying information. Excluded are computer resources, both hardware and software, that are: physically part of, dedicated to, or essential in real time to the mission performance of weapon systems; used for weapon system specialized training, simulation, diagnostic test and maintenance, or calibration; or used for research and development of weapon systems. (Modified from DoD Directive 8120.1, reference (b))

7. Automated Information System (AIS) Program Manager (PM) The principal official responsible for planning, directing, and managing the AIS program activities during the "Concept Exploration and Definition," "Demonstration and Validation, " "Development," and "Production and Deployment" life-cycle management phases (reference (b)).

8. Conceptual Schema. Descriptive representation of data and data requirements that supports the "logical" view or data administrator's view of the data requirement. This view is represented as a semantic model of the information that is stored about objects of interest to the functional area. This view is an integrated definition of the data that is unbiased toward any single application of data and is independent of how the data is physically stored or accessed.

9. Data. A representation of facts, concepts, or instructions in a formalized manner suitable for communication, interpretation, or processing by humans or by automatic means (reference(a)).

10. Data Administration (DAdm). The responsibility for definition, organization, supervision, and protection of data within an enterprise or organization. (DoD Directive 8320.1, reference (c))

11. Data Administrator (DAd). A person or group that ensures the utility of data used within an organization by defining data policies and standards, planning for the efficient use of data, coordinating data structures am-ong organizational components, performing logical database design, and defining data security procedures. (NBS Spec Pub 500-152, reference (d))

12. Data Architecture. The framework for organizing and defining the interrelationships of data in support of an organization's missions, functions, goals, objectives, and strategies. Data architectures provide the basis for the incremental, ordered design and development of databases based on successively more detailed levels of data modeling.

13. Data Collection. The process of obtaining information that supports a functional activity, or information requirement.

14. Data Element. A named identifier of each of the entities and their attributes that are represented in a database (reference(a)).

15. Data Entity. An object of interest to the enterprise, usually tracked by an automated system. (NBS Spec Pub 500-149, reference(e))

16. Data Integrity. In information processing, the condition in which data is accurate, current, consistent, and complete (reference(d)).

17. Data Model, In a database, the user's logical view of the data in contrast to the physically stored data, or storage structure. A description of the organization of data in a manner that reflects the information structure of an enterprise (reference (a)).

18, Data Quality. The correctness, timeliness, accuracy, completeness, relevance, and accessibility that make data appropriate for use (reference(a)).

19. Data Repository. A specialized database containing information about data, such as meaning, relationships to other data, origin, usage, and format, including the information resources needed by an organization.

20. Data Security The protection of data from accidental or intentional modification or destruction and from accidental or intentional disclosure to unauthorized personnel (reference(a)).

21. Data Standardization. The process of documenting, reviewing, and approving unique names, definitions, characteristics and representations of data according to established procedures and conventions. (DoD 8320. I-M-1, reference (f))

22. Data Steward. The person or group that manages the development, approval, and use of data within a specified functional area, ensuring that it can be used to satisfy data requirements throughout the organization (reference(f)).

23. Data Synchronization. The timing requirements of a data element, or between and/or among data elements.

24. Data Value. A value associated with a data element. One of the allowable values of a data element. Synonym of “a data item” (reference(c)).

25. Database. A collection of interrelated data, often with controlled redundancy, organized according to a schema to serve one or more applications; the data are stored so that they can be used by different programs without concern for the data structure or organization. A common approach is used to add new data and to modify and retrieve existing data (reference (a)).

26. Database Administration (DBAdm). The activity responsible for the enforcement of the policies and standards established by the data administrator, to include providing technical support for physical database definition, design, implementation, maintenance, integrity, and security; and coordinating with computer operations technicians, system developers, vendors, and users. Database administration is oriented toward technical support for databases and the effective and efficient use of information technology resources.

27. Database Administrator (DBAd). A person or group that provides technical support for one or more databases, by defining database schemas and subschemas, by maintaining data integrity and concurrence, providing physical database design for performance optimization, and enforcing the policies, standards, and procedures set by the data administrator (reference (d)).

28. Enterprise Model. An information model(s) that presents an integrated top-level representation of processes, information flows, and data. (Derived from DoD Directive 8000.1, reference (g).)

29. External Schema. A logical description of an enterprise that may differ from the conceptual schema upon which it is based in that some entities, attributes, or relationships may be omitted, renamed, or otherwise transformed (reference (a)).

30. Functional Activity. The primary subdivision of a functional area, made up of a collection of processes that can be managed together using policies and procedures not specifically applicable to other functional activities within the functional area.

31. Functional Area. A functional area (e. g., personnel) is comprised of one or more functional activities (e. g., recruiting), each of which consists of one or more functional processes (e. g., interviews) (reference (g)).

32. Functional Process. A well-defined (or definable) set of logically related tasks and decisions within a functional activity that use resources to produce products or services.

33. Functional Process Improvement. Application of a structured methodology to define a function's "as is" and "to be" environments; current and future mission needs and end user requirements; objectives and a strategy for achieving those objectives; and a program of incremental and evolutionary improvements to processes, data, and supporting AISS that are implemented through functional, technical, and economic analysis and decision-making. (See the ASD(C3I) Memorandum, reference (h).)

34. Information. Any communication or reception of knowledge such as facts, data, or opinions, including numerical, graphic, or narrative forms, whether oral or maintained in any medium, including computerized databases, paper, microform, or magnetic tape (reference (g)).

35. Information Architecture. A framework that portrays relationships among all data and activity components identified in models. It is an abstraction based on the products of the highest level of modeling and is further refined based on the next successive levels of modeling as each area of those detailed levels are completed.

36. Internal Schema. An internal schema describes data as it is physically stored and includes all aspects of the environment in which a database is to reside (reference (a)).

37. Information System (IS). The organized collection, processing, maintenance, transmission, and dissemination of information, in accordance with defined procedures, whether automated or manual. (DoD Directive 5200.28 (reference (i)), as modified by OMB Cir A-130 (reference (j)).)

38. Logical Data Model. A model of data that represents the inherent structure of that data and is independent of individual applications of the data and also of the software or hardware mechanisms which are employed in representing and using the data.

39. Metadata. Information describing the characteristics of data; data or information about data; descriptive information about an organization's data, data activities, systems, and holdings (reference (d)).

40. Migration System. An existing AIS or a planned and approved AIS that has been officially designated to support standard processes for a functional activity applicable DoD-wide or Component-wide (reference (b)).

41. Modeling. Application of a standard, rigorous, structured methodology to create and validate a physical, mathematical, or otherwise logical representation of a system, entity, phenomenon, or process.

42. Operational Service. The activities necessary to fulfill the mission of a function or program, and to use the final products of the function or program.

43. Physical Data Model. A representation of the technologically independent information requirements in a physical environment of hardware, software, and network configurations representing them in the constraints of an existing physical environment (reference (a)).

44. Program Administration. The management activity necessary to manage a program across functional and organizational 'areas.

45. Repository. See definition 19., data repository.

46. Schema. A description or global model of the structure of a database (reference (a)).

47. Single Point-of -Entry. The organization(s) responsible for entering data values for a data element.

48. Standard Data Element. A data element that has been approved formally in accordance with the organization's data element standardization procedures.

49. Subject Area. A major, high-level classification of data. A group of entity types that pertains directly to a function or major topic of interest to the enterprise.

50. Technical Infrastructure. The internal framework that must be built to implement an operational service.

51. "To Be" Activity and/or Data Model. Activity and/or data models that result from a functional process improvement action or program. The "to-be" model shows how the business process will function and the data it will use after the improvement action is implemented. (See definition 41., model ing.)

ABBREVIATIONS AND ACRONYMS

1.	AIS	Automated Information System
2.	ANSI/SPARC	American National Standards Institute's Standards Planning and Requirements Committee
3.	ASD(C3I)	Assistant Secretary of Defense for Command, Control, Communications, and Intelligence
4.	CASE	Computer Aided Software Engineering
5.	CDA	Central Design Activity
6.	CDAd	Component Data Administrator
7.	CIM	Center for Information Management
8.	DAd	Data Administrator
9.	DAdm	Data Administration
10.	DAPM	Data Administration Program Manager
11.	DAPMO	Data Administration Program Management Office
12.	DASD(IM)	Deputy Assistant Secretary of Defense for Information Management
13.	DASP	Data Administration Strategic Plan
14.	DBAd	Database Administrator
15.	DBAdm	Database Administration
16.	DBMS	Database Management System
17.	DBOF	Defense Business Operating Fund
18.	DDRS	Defense Data Repository System
19.	DISA	Defense Information Systems Agency
20.	DoD	Department of Defense

21. DoD DAd	DoD Data Administrator
22. DTIC	Defense Technical Information Center
23. FAPM	Functional Activity Program Manager
24. FDAd	Functional Da-ta Administrator
25. FEA	Functional Economic Analysis
26. FIM	Functional Information Manager
27. FIPS	Federal Information Processing Standards
28. FPI	Functional Process Improvement
29. FYDP	Future Year Defense Plan
30. IDEF	Integrated Computer-Aided Manufacturing Definition
31. IM	Information Management
32. IRDS	Information Resource Dictionary System
33. IRM	Information Resource Management
34. Is	Information System
35. OSD	Office of the Secretary of Defense
36. OSD PSA	Office of the Secretary of Defense, Principal Staff Assistant
37. NBS	National Bureau of Standards
38. NIST	National Institute of Standards and Technology
39. NTIS	National Technical Information Service
40. PM	Program Manager
41. POM	Program Objective Memorandum
42. PPBS	Planning, Programming, Budgeting System